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TECHNICAL NOTES

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ROCKY MOUNTAIN STATION

STN PUB ALASKA FOREST RESEARCH CENTER

U. S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE

No. 8

JUNEAU, ALASKA

Past Logging Affects Little of Watersheds

Past logging near salmon streams in Southeast Alaska has disturbed the watersheds very little. A compilation of watershed areas compared to areas cut on 24 Forest Service timber sales adjoining streams showed the following:

1. Southeast Alaska watersheds are small. On the 24 sales they ranged from 342 acres to 20,000 acres.
2. Areas logged are small. They ranged from 18 acres to 178 acres.
3. Average proportion of watershed cut over was only 1.3 percent. Individual sales ranged from 0.28 percent to 15.5 percent.
4. Cutting is nearly always confined to the lower part of the watershed. In no case did cutting proceed more than two miles up a drainage.
5. Southeast Alaska forest stands are so broken up and intermingled with non-merchantable types that no great unbroken clear-cuttings or denuded watersheds can be expected.

Chemical Brush Control

Woody shrub and brush growth in Southeast Alaska is lush, aggressive and persistent. Trails without an overstory of forest trees to suppress this growth may require two or three brushings each season in order to maintain them to a good standard. Costs are correspondingly high.

General interest in chemical brush control and extensive experiments in other regions led to simple trials in the vicinity of Juneau beginning in 1948. Effects from initial spraying with Stoddard's solvent and Esteron 44 near Mendenhall Glacier were hidden in the general winter dessication and die-back on that area. The bitter winds off the glacier froze portions of most shrubs the winter after application.

1949 spraying at a more normal location using two concentrations of Ammate and one of Esteron 44 gave nearly complete kills of alder, willow, salmonberry, devils club and blueberry by fall. Grass seemed to benefit from eliminating the brush competition. By midsummer of 1950 perhaps 10 percent of the alder and willow showed weak unthrifty sprouting.

1950 spraying with Ammate (1/2# and 1# per gallon) in late June resulted in good brush kills. Some applications were over freshly cut brush, others on uncut brush. It appears that 1/2# of Ammate per gallon of water will do the job. In 1951 practical details of application by trail crews will be determined.

The table on page 2 summarizes the tests and observed results.

March 1951

L. W. Zach

Chemical Brush Control Applications and Results

Location and Material	Concentration of mixture and application	Date of application	Species treated	Results
Rifle Range Stoddard Solvent	Full strength 1 gal. per 2000 square feet.	6/10/48	Alder, willow, spruce repro- duction.	Little effect noticeable, winter dessication killed as much brush as the spray.
Rifle Range Esteron 44	One part Esteron to 60 parts kerosene. One gal. per 2000 square feet.	6/10/48	Alder, willow, spruce repro- duction.	75% of broad leaves de- foliated by July 1. 90% of broad leaves dead by Oct. 8. On 7/6/49 about 5% of the broad leaves showed weak sprouting. Net effect of spray uncertain because of winter kill on general area.
Mile 7 Esteron 44	One part Esteron to 60 parts kero- sene. One gal. per 200 square feet.	7/6/49	Alder, willow, salmonberry, Vacciniums, devils club.	One year after spraying all species were dead, woody parts decaying, grass apparently not affected.
Mile 7 Ammate	1/2# per gal. One gal. per 500 square feet.	7/6/49	Alder, willow, salmonberry, Vacciniums, devils club.	One year after spraying there were a few new shoots on willow, weak sprouting at the base of a few alders.
Mile 7 Ammate	1# per gal. One gal. per 500 square feet.	7/6/49	Alder, willow, salmonberry, Vacciniums, devils club.	One year after spraying - same results as from above 1/2# per gal. application.
Mt. Juneau Ammate	1# per gal. One gal. per 600 square feet.	6/28/50	Salmonberry, elderberry, devils club, spirea, alder.	2-1/2 months after spraying brush brown. No resprout- ing both on uncut and cut- before-spraying. Grass not noticeably affected.
Mt. Juneau Ammate	1/2# per gal. One gal. per 600 square feet.	6/28/50	Salmonberry, elderberry, devils club, spirea, alder.	2-1/2 months after spraying- same results as from above 1# per gal. application.